

Amendment to the claims:

Claim 1 (original): A multiple modulus conversion (MMC) method for obtaining a plurality of index values associated with a plurality of moduli, for use in a communication system having means configured to map frames of information bits onto predetermined communication signal parameters, said method comprising:
obtaining an input;
representing the input as a plurality of sub-quotients;
performing a multiplication operation to multiply at least one of the sub-quotients by a multiplicand; and
determining an index value associated with the multiplicand, the index value being responsive to the inverse modulus multiplication operation.

Claim 2 (original): A method according to Claim 1, further comprising obtaining a multiplicand that relates to the estimated inverse of a whole number, wherein performing a multiplication operation includes multiplying at least one of the sub-quotients by the multiplicand.

Claim 3 (original): A method according to Claim 2, wherein at least one pseudo remainder is produced, the method further comprising checking at least one of the pseudo remainders to determine whether the pseudo remainder falls within a predetermined range and, if it is not within the predetermined range, adjusting the pseudo remainder such that the pseudo remainder falls within the predetermined range.

Claim 4 (original): A method according to Claim 2, wherein at least one pseudo remainder is produced, the method further comprising checking at least one of the pseudo remainders to determine whether the pseudo remainder is larger than or equal to a predetermined number and, if it is, subtracting the said number from the pseudo remainder.

Claim 5 (original): A method according to Claim 4, wherein the predetermined number is subtracted from the pseudo remainder until the pseudo remainder is smaller than the predetermined number.

Claim 6 (original): A method according to Claim 2, wherein at least one of the multiplicands is pre-calculated, and stored in a table, the method further comprising obtaining at least one multiplicand from the table.

Claim 7 (original): A method according to Claim 2, wherein the maximum number of digits N_3 in the multiplicands, the maximum number of digits N_2 in the whole numbers, and the maximum number of digits $n(j)$ in all but the most significant of the sub-quotients are related by the inequality $N_3 > N_2 + n(j)$.

Claim 8 (canceled)

Claim 9 (original): A method according to Claim 2, wherein the input is represented as sub-quotients in the form of $Q_{i-1} = Q_{i-1,0} + Q_{i-1,1}*B^{n(0)} + \dots + Q_{i-1,k}*B^{n(0)+n(1)+\dots+n(k-1)}$.

Claim 10-11 (canceled)

Claim 12 (original): A multiple modulus conversion (MMC) encoder comprising:
an input configured to receive input data represented by a number of digits;
a multiplication means for multiplying two numbers; and
a processor configured to represent the input as a plurality of sub-quotients, to multiply at least
one sub-quotient by a multiplicand, and to produce an index value associated with the
multiplicand, the index value being responsive to the multiplication operation.

Claim 13 (original): A modulus encoder according to Claim 12, wherein the multiplicand is
related to the estimated inverse of a whole number.

Claim 14 (original): A modulus encoder according to Claim 13, wherein the processor is
further configured to generate a pseudo remainder, and further configured to check whether the
pseudo remainder falls within a predetermined range.

Claim 15 (original): A modulus encoder according to Claim 13, wherein the processor is
further configured to generate a pseudo remainder, and further configured to check whether the
pseudo remainder is larger than or equal to a predetermined number, and further configured to
subtract the predetermined number from the pseudo remainder if the pseudo remainder is larger
than the predetermined number.

Claim 16 (original): A modulus encoder according to Claim 15, wherein the processor is
configured to keep subtracting the predetermined number from the pseudo remainder until the
pseudo remainder is smaller than the predetermined number.

Claim 17 (original): A modulus encoder according to Claim 13, further including storage
means to store at least one multiplicand.

Claim 18 (original): A modulus encoder according to Claim 13, wherein the processor is
configured to handle multiplicands with a maximum number of digits N_3 , and is further
configured to handle moduli with a maximum number of digits N_2 , and is further configured to
handle inputs represented as sub-quotients with a maximum number of digits $n(j)$ in all but the
most significant of the sub-quotients, wherein these quantities are related by the inequality $N_3 >$
 $N_2 + n(j)$.

Claim 19 (original): A modulus encoder according to Claim 13, further including a inverse
estimate calculation means, wherein the inverse estimate is calculated according to the following
formula: $C_i = \text{floor}(B^{N_3}/Y_i)$, where B is the base of the number system, N_3 is the maximum
number of digits in the multiplicands, and Y_i is a whole number.

Claim 20 (original): A modulus encoder according to Claim 13, wherein the input is configured
to obtain an input value in the form $Q_{i-1} = Q_{i-1,0} + Q_{i-1,1}*B^{n(0)} + \dots + Q_{i-1,k}*B^{n(0)+n(1)+\dots+n(k-1)}$.

Claim 21 (original): A modulus encoder according to Claim 18, wherein the processor is configured to obtain a sub-quotient of an output pseudo-quotient by multiplying a portion of the input by an estimated inverse modulus according to the following formula: $Q_{i,j} = ((Q_{i-1,j} + R_{i,j+1} * B^{n(j)}) * C_1) \gg N_3$; and wherein the processor is further configured to obtain a pseudo remainder according to the following formula: $R_{i,j} = (Q_{i-1,j} + R_{i,j+1} * B^{n(j)}) - (Q_{i,j} * Y_i)$, where B is the base of the numbering system.

Claim 22 (original): A modulus encoder according to Claim 18, wherein the processor is further configured to generate an output remainder R_i and new quotient $Q_i = Q_{i,0} + Q_{i,1} * B^{n(0)} + \dots + Q_{i,k} * B^{n(0)+n(1)+\dots+n(k-1)}$.